second. Fellner has devised an apparatus which he says is especially suited to this procedure.

A Skin Reaction in Carcinoma from the Subcutaneous Injection of Human Red Blood Cells.—Elsberg (*Proc. Soc. Exper. Biol. and Med.*, 1909, vi, 91; *Jour. Amer. Med. Assoc.*, 1909, lii, 1310) attempted to produce a specific hemolytic reaction locally by the injection of red blood cells under the skin of a carcinoma patient. He was led to these experiments by the recent demonstration that hemolysis occurs when the blood serum of a patient suffering from carcinoma is mixed with normal human red blood cells. The technique employed was simple. Blood was obtained aseptically from normal individuals, preferably children, and defibrinated. A 20 per cent. emulsion of the washed red blood corpuscles was used, five minims of this being injected subcutaneously in the anterior surface of the forearm. A "positive reaction" consisted of infiltration, tenderness, and redness at the site of injection, in six to eighteen hours. Simple discoloration or the puncture wound was all that was seen in the negative cases. Thirty-four injections were given to 20 cases of known carcinoma, and every one of the cases had a positive reaction; of four cases with known sarcoma; three gave a positive reaction. The reaction was negative in all but 3 of 100 individuals who were either normal or suffering from such diseases as nephritis, leukemia, syphilis, benign tumors, tuberculosis of the lungs, bladder, and kidneys, and many acute and chronic inflammatory conditions. No reaction was obtained in several patients in whom malignant disease was suspected but not found at operation. An exploratory incision has confirmed the positive reaction in several patients in whom carcinoma was not suspected. The injection of laked bood caused a positive reaction in all patients, whether suffering from malignant disease or not. This seemed to show that the positive reaction in carcinoma from blood cell injection was due to hemolysis. It may prove that this is constant enough to be a characteristic and easily recognized aid to diagnosis.

SURGERY.

UNDER THE CHARGE OF

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A Modification of the Bassini Operation, Especially in Large Herniæ.—Caminiti (*Zentralbl. f. Chir.*, 1909, xxxvi, 244) makes an incision through the skin and external oblique muscle, opening the inguinal canal. The fibers of the cremaster are then separated and the sac of the hernia exposed and isolated from the surrounding tissues The separated and, emptied sac is then ligated at its neck and the stump first fixed above or the operation carried further toward its completion. Instead of now taking up together in one bundle, the cord, the common tunica vaginalis, and cremaster, they are separated from one another, and the elements of the cord carefully isolated. Temporarily these are kept together by wrapping them with the cremaster in gauze. If the stump of the cord has not already been drawn upward and fixed in the upper part of the wound this is now done. The internal oblique and transversalis muscles are then sutured to Poupart's ligament. The peripheral edge of the cremaster is removed, so that only its compact portion remains. It is then sutured over the other layers. The cord structures are then spread out over this layer. The external oblique is sutured over the cord and then the skin.. The cremaster muscle begins, immediately to functionate and increases the strength of the inguinal region. It still retains its undisturbed relation to its anatomical origin and will undergo no alteration.

Some Disorders of the Cerebral Circulation and Their Clinical Manifestations.—RUSSELL (*Lancet*, 1909, i, 963 and 1031) says that the fundamental factor in the pathology of a fainting fit is a diminution of the volume of blood passing through the brain. Physiologically, two important factors are concerned: (1) Vasodilatation in the splanchnic area; and (2) cardiac inhibition. Probably in some cases only one of these factors is primarily concerned, in others both may be involved. It is difficult to judge as to the degree and frequency with which the heart may be affected independent of the changes in the splanchnic area. Gowers has reported three cases in which repeated syncopal attacks have passed into epilepsy. In all three the attacks were originally brought on by external influences and were typically syncopal. After a lapse of time they appeared spontaneously and with a more sudden onset, in fact, they were undoubtedly epileptic. The explanation of this change which suggests itself is that the increased suddenness of the attacks is due to increase of the rapidity with which the circulatory changes are brought about. Gowers believes that a change in the nerve elements occurs and is due to a sudden diminution of the intracranial pressure in syncope. He suggests that the resulting state of the nerve elements from repeated induction becomes spontaneous, constituting minor epilepsy. A number of cases have been reported in which it has been established beyond question that arrest of the heart preceded the epileptiform attacks. Langendorff made observations on the results of stimulation of the peripheral end of the vagus in rabbits narcotized with chloral. Electrical stimulation caused a prolonged stoppage of the heart with a complete epileptic convulsion, ten or fifteen seconds after the diastolic pause. Precisely similar convulsions are produced by compression of the thoracic aorta at a point nearer the heart than where the great vessels to the head are given off. The circulatory failure offers the most reasonable explanation for the various manifestations observed in an epileptic attack. Leonard Hill produced clonic convulsions in himself by compression of one carotid artery. Epileptic convulsions, petit mal, and infantile convulsions are probably to be explained on the basis of cerebral anemia. The phenomena of Jacksonian fits dependent on tumor might be due to spreading vasoconstriction.

Postoperative Pulmonary Embolism—LENORMANT (*Archiv. gén. de chir.*, 1909, iii, 221) quotes Selberg, who, upon postmortem evidence, determined that half of the deaths after aseptic laparotomies are due to pulmonary lesions. Von Lichtenberg collected statistics on 23,600 operations, of which 16,000 were laparotomies; and found that the pulmonary complications reached 2 per cent. for all operations and 5.5 per cent. for laparotomies alone. Kelting classified these cases according to the path of the pulmonary infection, into the bronchial (aspiratory pneumonias), and infection through the lymphatics (through the diaphragm from operations in the upper abdomen, especially on the stomach). Von Lichtenberg classified them into four groups: pneumonias consecutive to narcosis; hypostatic pneumonias; infectious pneumonias; and the embolic complications. Lenormant would add to this classification a fifth group, the pneumonias of deglutition which occur in consequence of operations on the upper digestive and respiratory tracts and in patients who vomit (intestinal occlusion). Lenormant reports briefly 4 cases of postoperative embolism, occurring in 792 different operations (a proportion of 0.5 per cent.). Three of the 4 occurred after abdominal operations. They are much less frequent after operations on other parts of the body, as the head, neck, thorax, and extremities. The danger of pulmonary embolism from laparotomy, seems to be greater the further the operative zone is from the diaphragm. Pulmonary complications are, it is true, very frequent after gastric operations, but these are pneumonias or pulmonary congestions, and emboli play in these cases, only an exceptional and insignificant role. Sometimes the emboli take their origin from the veins of the operative region, as the femoral and external iliac, especially on the left side. Lenormant believes that the latter result from an infection. As soon as a thrombus develops the danger of an embolus breaking off and being carried away in the blood stream is present. The pulmonary lesions consecutive to a pulmonary embolus vary. Massive emboli of the pulmonary trunk kill in a few minutes, by syncope. Medium and small emboli produce the classic hemorrhagic infarcts. Secondary infection of the infarct is frequent. Sometimes the infection comes from the embolus itself, sometimes from the bronchus. Odinarily the infection remains moderate and is accompanied by an embolic pneumonia. Abscess or gangrene may also result. The prognosis is extremely grave. In a series of 233 cases collected from the literature, Lenormant found 106 deaths, 45.5 per cent. The prognosis is probably less dangerous than this would indicate, since many of the milder cases are overlooked. The chief therapeutic indication is preventive. Patients with weak hearts should receive beforehand proper medical treatment. Ranzi advised preliminary injection of scopolamine-morphine, to reduce the quantity of ether necessary, while Witzel employs in such cases, ether exclusively, because it has not the depressing effect of chloroform on the heart. Strict asepsis, careful handling of the bloodvessels, especially of the veins, in the dissection of large tumors, are necessary. When the signs of pulmonary embolism develop, the usual measures to stimulate the heart and avoid asphyxia should be adopted. The operation of Trendelenburg upon the pulmonary artery for the direct extraction of the clot can be justified only in the most grave cases in which death is imminent.

Concerning the Healing of Chronic (Tuberculous) Empyema by Means of Artificial Pneumothorax.—WENKENBACH (*Mit. a. d. Grenz. de Med. u. Chir.*, 1909, xc, 842) says that little is to be expected from the internal treatment of tuberculous empyema. The Estlander, Schede, and Delorme methods of treatment are always desperate, and when successful always leave the patient a cripple, usually an invalid. In a few cases Wenkenbach employed a method which he regards as simple and safe. In the first case several aspirations of the pus had been done, and during the last one the patient complained of oppression and pain in the chest, so that the aspiration was terminated. Through the stopcock and rubber tubing attached to the trochar, air was permitted to enter the chest, and then the stopcock was closed. The patient breathed more freely and the oppression and pain were relieved. Ten days later the aspiration of pus and the admission of air were repeated. Similar improvement followed. The treatment was repeated, at first three, and later four and six weeks apart, with complete healing finally. The patient still suffered from tuberculosis of the other lung, and gradually grew worse. In a second case, also severe, a cure was obtained. This treatment can be carried out by every general practitioner. No complicated apparatus is necessary. It is not necessary to introduce oxygen. Air is enough. The extraction of the often very voluminous exudate greatly relieves the patient. By the introduction of air the whole exudate can be removed entirely without danger. The general condition of the patient improves immediately, and the quality of the exudate is favorably changed. The lungs gradually approach the chest wall, so that the strong traction on it is avoided. The condition of the diseased side of the thorax can subsequently be improved by mechanical treatment. After a few months the patient can recover in great part or completely his ability to work.

Concerning Suture of Stab Wounds of the Lung.—STUCKEY (*Archiv f. klin. Chir.*, 1909, lxxxviii, 767) says that in recent years most surgeons have contended for radical procedures in stab wounds of the lungs. Their chief reasons for this treatment were to be found in the loss of blood, increasing pneumothorax, and progressive subcutaneous emphysema. In earlier times the fear of a general pneumothorax led surgeons to assmue a waiting position. Stuckey will follow the expectant line of treatment if thirteen hours have passed since the wound was received, unless anemia or a tense pneumothorax is present, when a radical operation will be necessary. When a stab wound is found to lead into the pleural cavity, the edges of the pleural wound should be drawn aside with sharp hooks, in order that one may obtain a view of the cavity of the pleura, and to learn whether or not there is any blood in it. If little or no blood is found, the object has been attained. The edges of the wound in the pleura and muscles should be closed with a few silk sutures. With an hermetically closed pleura, the pneumothorax will be more quickly absorbed. If there is discovered in the pleural cavity a considerable amount of blood, or there is suspected a wound of the heart or diaphragm, a rib resection is necessary. Recent stab wounds in themselves call for operative intervention. Wounds of the lung should be closed by suture, and the suture should include the floor of the wound and not be too tightly tied. When the suture cannot be introduced and caught in the tissues, the wound should be packed with gauze and the edges of the wound sutured to the margins of the pleural opening, so that it may heal by granulation. The pleural cavity is to be completely closed by the suture, so that the resulting pneumothorax shall not give way.

A Contribution to the Surgical Treatment of Cancer of the Lip.—STEINER (*Deut. Zeit. f. klin. Chir.*, 1909, xcvii, 243) says that cancer of the lip is ten times more frequent in males than in females. Cancer of the lower lip is twelve times more frequent than of the upper lip. On the lower lip there is a predilection of the cancer to attack either the right or the left half, while in the upper lip it is generally found in the middle. Among farmers and, more particularly, smokers, cancer of the lip is especially frequent. It occurs most frequently between the ages of fifty-five and sixty years. Preceding inflammation, psoriasis, leukoplakia, and scars are exciting causes of their development. 84 per cent. of the recurrent and 71.7 per cent. of the non-recurrent cases were admitted within a year of the stated appearance of the growth; 55 per cent. of the primary cancers were admitted within the first year; in 76 per cent. the cancer had already ulcerated, and in 67 per cent. a regional gland infiltration was present; 70.7 per cent. of the cases operated on for primary cancer were free of recurrence more than three years after operation, and 69.6 per cent. after more than five years. In two-thirds of the recurrent cases death occurred in the first year; 10 per cent. of the cases operated on for recurrence remained free of recurrence more than three years. Three-fourths of the cases operated on for recurrence died in the first year.

The Treatment of Acute Inflammations with Bier's Passive Hyperemia.—LOSSEN (*Deut. Zeit. f. Chir.*, 1909, xcvii, 259) says that Bier's passive hyperemia is a valuable physical aid in the treatment of tuberculous, gonorrhœal, and acute suppurative inflammations. It is indicated, and without incision, in pure fungus, without inclination to softening, in all gonorrhœal inflammations, and in all beginning acute inflammation. It is further indicated in acute inflammations, however, only when there results a relief of inflammatory pressure from an incision or a fistula, and when for a cosmetic or functional purpose a large incision is to be avoided. It is still further indicated in those cases in which, in spite of a wide incision, the granulating wound in unhealthy and the sepsis has not diminished. Passive hyperemia is particularly effective in suppurative periproctitis, para-urethral abscesses, furuncles and carbuncles of the head and neck, suppuration of the joints and tendon sheaths, phlegmonous bursitis with fistulæ, biliary fistulæ, mastitis, softened axillary bubo, and especially in inflammations with advanced softening. It is not effective in infiltrated and fibrous inflammatory tissue (as in many streptococcic phlegmons), in glands without complete softening, lymphadenitis and lymphangitis, in many cases of bone infection, erysipelas, and diabetic phlegmons. This treatment calls for close attention in order that the presence of retention of pus may be recognized promptly, that excessive œdema may be reduced by other physical methods, and beginning adhesions retarded.

Inguinal Hernia of the Uterus.—PARKER (*Brit. Med Jour.*, 1909, i, 947) reports the case of a woman, aged forty-seven years, on whom he did a double herniotomy. During a fortnight previous to operation, symptoms of intestinal obstruction had occurred, lasting three days. The right hernia, which alone had been troublesome, was found at operation to contain an ovary, Fallopian tube, broad ligament, and small, elongated uterus, all enclosed in a peritoneal sac. There was no means of reducing the contents, which were accordingly removed. In doing this a careful search was made for a portion or trace of the vagina, but none was found either then or after dissection of the specimen. But the finger was passed into the vagina at this stage of the operation, without obstacle and without any discovery of note. Both wounds were then closed, and they healed by first intention. Much pain and inability to pass wind, with slight but increasing distention, followed the operation. On the fifth day a median abdominal section was performed. Attached to and blocking the sigmoid flexure was found a hard lump which was taken for a small carcinoma. A loop of bowel with the lump superficial was sewn closely to the peritoneum, and its contiguous sides attached to each other in the middle of the opening. An artificial anus was then made. A careful search was made in the pelvis for the left ovary and appendages, and for the left half of the supposed uterus bicornis, but nothing whatever could be found of such parts. On attempting a vaginal examination the finger could now be passed no more than an inch or so, the vagina being tightly closed beyond this point. The symptoms of bowel obstruction disappeared, but the severe pain continued, requiring the use of morphine hypodermically. Exactly two months after the colostomy was performed a third operation was undertaken, with the view of removing the growth on the colon, which had receded into the wound. After clearing out the rectum by enemas from the fistula and rectum, the finger which passed in both directions from the fistula revealed no tumor. A clamp was applied to the spur and was gradually cut through in a little over a week, when feces were found to be passing the anus, though most passed by the fistula. A fourth operation was done to close the fistula. This did not succeed, but later the fistula gradually closed and the patient became perfectly well.

Tetanus Occurring after Surgical Operations.—RICHARDSON (*Brit. Med. Jour.*, 1909, i, 948) reports two cases in which the symptoms of tetanus developed after operation, one for gallstones, the other for a strangulated, inguinal, omental hernia. Both patients died. Richardson collected notes of 21 cases in which tetanus followed operation. Twenty of the cases have occurred within the past three and one-half years, and one as long ago as 1884. Hamilton has pointed out that there is a group of diseases among sheep, the symptoms of which are closely allied to tetanus and the bacillus of which cannot be distinguished from that of tetanus. These diseases are endemic in certain parts of the British Isles. The 21 cases have occurred only in those districts in which the tetanic group of sheep diseases is endemic. More than 90 per cent. of the cases of postoperative tetanus followed operations in which the peritoneal cavity had been opened. Richardson suggests that the disease which we call postoperative tetanus is not tetanus at all, but one of the sheep diseases; that it is not introduced by the catgut; that the patient is at the time of the operation the host of the bacillus; and that we must look upon these as cases of idiopathic tetanus, accepting Hamilton's suggestion that idiopathic tetanus is not true tetanus as we understand the term. The most important point is to determine whether the infection, whatever it may be, is conveyed by the catgut. Richardson hopes that the catgut may be acquitted.

Concerning Excrescences of Fatty Synovial Fringes in the Knee-joint.—Rammstedt (*Archiv f. klin. Chir.*, 1909, lxxxix, 173) says that no joint in the body is subject to so many injurious influences as the knee. While much attention has been given in the literature, recently, to many of these conditions, relatively little has been given to the inflammatory overgrowth of the fatty masses and fringes in the joint. Hoffa, who first called attention to them, on opening a joint for a supposed injury to the semilunar cartilages, found this condition, and upon excising the fringes a cure followed. They spring from the ligamenta alaria and mucosa, increase in size from inflammatory hyperplasia, and because of their increased size become caught between the ends of the bone, producing severe symptoms. The causative synovitis may be due to trauma or disease. The catching of the fringes between the ends of the bones may be confused with a dislocation of a semilunar cartilage, a free joint body, or a tearing of a crucial ligament. In the latter group of conditions the severe symptoms are followed by synovitis and effusion into the joint. In the case of catching of the fatty fringes, almost always a chronic swelling of the joint, and especially of the fatty masses at the sides of the ligamentum patellæ, precedes the occurrence of the severe symptoms. One should bear in mind that isolated lipomas and sarcomas have been reported. The lipomas may be of various sizes, from that of a hazel-nut to that of a walnut, and may give symptoms simulating those produced by the catching of the fringes and may also be preceded by trauma. The treatment of cases in which the fringes are caught may be conservative if they give only moderate disturbance. In most cases, improvement and a gradual return to the normal follows the use of massage, heat in the form of sand baths or hot air, elastic compression by bandages, and guarded use of the joint with apparatus. Patience is especially necessary. Operation is justified in the more severe cases with limitation of movement and severe pain associated with locking of the joint. The joint should be opened freely by a curved incision at the outer or inner side over the prominence. The hypertrophic masses are then seized with forceps and excised with suitable scissors. The hemorrhage is slight and can usually be stopped by a gauze pad, which may be left in position until the capsule wound is about to be closed. Drainage is not necessary. If an effusion of bloody serum should form, this may be removed by puncture on the first change of the dressing. In from twelve to fourteen days after the healing of the wound, massage, hot air, movements of the joint, and compression bandages should be employed.